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MONTANA AE[illegible]NAUTICS COMMISSION

News Letter

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National Association of State Aviation Officials

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AIRPORT FLIGHT OPERATION SURVEY

President Eisenhower is having a long range aviation facility study made by a group called the Curtis Committee. The committee has employed a management consultant firm to prepare statistics on general aviation activities throughout the country. A survey was made at selected airport to acquire information on the amount of flying done with all aircraft other than military and airline operation.

The cities selected for this survey in Montana included Billings, Hardin, Great Falls and Missoula The survey was conducted under the direction of state aeronautics commissions of the various states and the persons selected to handle the survey at each of the Montana airports included Robert Boles at Hardin, Charles Lynch, Billings, J Ray Mabiry of Great Falls and Emil Olson of Missoula Survey forms were distributed by the aeronautics commission to each of the airports. Pilots of aircraft landing and taking off during this two-day period were requested to fill out information forms giving complete data on where they were from, where they were going, what airway facility they used, and the type of operation in which the airplane was used, whether it was a business aircraft, pleasure aircraft, patrol airplane or used for student instruction.

Various groups throughout the country supported the survey and the American Association of Aircraft Executives participated with the state aviation agencies in obtaining all the desired flight information and airport data which was forwarded to the Curtis Commission for their evaluation.

Curtis warned that some compromise will be necessary between the "ideal" traffic control system and "what is feasible in practice." He declared that there are "many practical reasons why" the ideal system which would "permit any pilot to fly anywhere he wanted to at any time regardless of weather conditions" will "not be obtainable in the foreseeable future."

The problem, he told the National Association of State Aviation Officials meeting at Lake Placid, "is to provide the pilot with the greatest degree of freedom consistent with safety and the expeditious movement of aircraft."

For the first time he set forth the general philosophy from which his system engineering group is developing the master plan for the future control system The system he stated, must be capable of phasing in with the present one but at the same time "having the dynamic potential to expand to meet growing requirements." Further, some degree of control will be necessary, "at least" in congested areas and under adverse weather conditions.

"For a long time to come," he continued, "there will be large areas of open spaces where a minimum of control or none at all will be desirable and possible" except for jet traffic at high altitudes "At the same time, it was quite unreasonable to expect that a pilot with 20 hours of solo time and no radio should be permitted in a congested traffic pattern at a major airport If he had any sense he wouldn't want to be there anyhow."

DON'T LEAN ON INSTRUMENTS IF YOU CAN'T USE THEM

Are you an instrument pilot? If not, have you ever been tempted to perhaps enter an area where there is a possibility you might have to rely on your instruments?

If you are not a current instrument pilot, don't do it! Every year there is a considerable obit of pilots who tried and ended up in the infamous graveyard spiral.

Recently the University of Illinois conducted a series of tests in determining how 20 veteran pilots would react under instrument conditions

None of these 20 pilots were instrument qualified. Some or most thought they could handle an aircraft with instruments if suddenly confronted with the necessity to do so. So what happened on these tests when these experienced pilots were put under simulated instrument conditions (flying under the hood)?

All 20, without a single exception, entered into a spiral The shortest time in entering the spiral was 20 seconds. The longest time, 480 seconds. But all ended up by winding up tighter and tighter in the downward spiral.

When these spirals indicated complete loss of control, the instructor had the pupils remove the goggles and see for themselves what was happening and why pilots could not survive under instrument conditions unless instrument qualified.

Proof positive you can't do it nor can anyone else. You may get by on a penetration of stratus or fog or an over-the-top letdown and by so doing, kid yourself you can go further next time. Best rule is not to get over-the-top in the first place in practice of good judgment If you want an instrument ticket, fine. Study and practice to be nothing but good . . . but until then, exercise the greatest of all aviation maneuvers when instrument conditions possibly lie ahead—the 180° turn.

And remember, instrument flying must be practiced all the time—it isn't a game where you get the ticket and then rest on your laurels with a vain idea all is now within your realm. Vertigo plays strange tricks on the mind and it makes no exception, ticket or no.

Keep in mind the old adage, "there are old pilots and there are bold pilots, but there are no old, bold pilots." Today's aviation is safe, much safer than automobile travel. Let's keep it that way.

DID YOU KNOW?

17,944,500 aircraft landings were handled by 180 CAA control towers during 1955 throughout the U. S —that's one every 1¾ seconds around the clock, all day every day in the year

Add to this the activity of the other 5,819 airports in the U. S without control towers whose activities are not recorded yet which handle most of the other 90% of aircraft of U. S registry—if imagination can be expanded to such capabilities, the result would most assuredly be astronomical

MONTANA AIRPORT DEVELOPMENT

Aviation has advanced rapidly in Montana within the last ten years and the airplane is now an indispensable instrument of our state economy.

The basic factor governing aviation development is the utility of the airplane. We now have good aircraft which are safe and economical to operate. (A four-passenger airplane will travel twenty miles to a gallon of gasoline which is comparable to the most economical cars).

The present utility of the airplane in Montana is restricted by the need for more landing strips and airport development. Montana has more aircraft per capita and less airport facilities than most other states. (Reference is made to other State Aviation Budgets printed in the July-August Newsletter.

We have nine county seat towns with no airports; we have twenty-eight county seat towns with only dirt strips to land on which are limited in use when the ground is soft; we have eighteen towns of over five hundred population which have no airports and we have fifty-two other communities which need airports or landing strips.

We need more low cost landing strips to serve rural areas and recreational areas in Montana.

We need sod landing strips to serve many Montana towns.

We need hard surfaced runways and lights on many existing sod landing strips now serving Montana communities.

We need more airport development for communities which will be served by local service airlines.

We need radio aids, lighting and utilities on many municipal airports.

We need planning for the development of at least one major air terminal in Montana for passengers and freight that can be used for global intercontinental air transport operations.

A speaker at a national aviation meeting recently pointed out the amazing potential that speed has given the new Boeing 707 jet airliner. The efficiency of the rotation engines give an operational use of this airliner of eleven hours per day. One Boeing 707 airliner in one year's operation will carry more passengers across the Atlantic ocean than any one ocean liner with the exception of the Queen Mary and the Queen Elizabeth. The 707 costs about four million dollars and an ocean liner many times that amount.

Montana is as accessible to a jet airliner as New York City and we have basic factors which are critical in high density population areas. These are cheap land, water, power, and good weather. An international airport as a crossroads for travel between nations where passengers and freight can be exchanged is not impossible for Montana.

Our neighbors to the north are building such an airport at Edmonton and we perhaps are slow to recognize the potential of world commerce to Montana.

AIRPORTS

The American public, represented by our Congress and Senate, has recognized the collective value of airport development to our National economy and security by contributing over half of the cost of Montana airport development.

The Montana taxpayer and the Montana Aviation Industry have contributed very substantially to our airport development.

Airport administration and development is the responsibility of all levels of government including national, state, county and city administration.

Frank Bane, secretary for the Council of State Governments at a national meeting of state directors of aeronautics recently gave an address in which he emphasized the need for states to participate in the planning and financing of airport development.

The need for airport development and state participation in the financing of airport development should be recognized by all of us.

The problem before Montana and the Montana Aviation Industry is who will pay for our airport development and what agencies will take part in airport planning and the administration of funds for airport development.

It is recommended that the present procedure of the financing of airport development at federal, county and city level be augmented by funds derived at state level and administered by your Montana Aeronautics Commission with a policy of particular emphasis on the development of needed single runway landing strips for small communities and in rural areas and to accomplish this;

It is recommended that state airport funds be restricted in use to an amount not to exceed ten thousand dollars on any one project in any one year.

MONTANA AERONAUTICS COMMISSION

The present revenue which finances the operation of your Montana Aeronautics Commission is derived principally from a one cent tax on aviation fuel. (Attention is invited to the budget and financial statement for the commission for the fiscal year 1955-1956).

It may be noted that the major part of these funds are used in the administration of the various functions of the commission office with very little money available for use in material projects such as, airport development; radio aids; air marking; aviation education; technical and legal assistance to communities; aviation safety and aviation promotion.

It is recommended that the financing, development, and planning of airports be a major function and responsibility of the Montana Aeronautics Commission and that consideration be given to legislation which will provide adequate funds to finance state participation in an airport development program.

Go and see your legislators and discuss our aviation needs with them. If you are an airplane owner take your state legislator for a ride and request his support in introducing legislation which will help us get more airports. We need an aviation committee in both Houses of our State Legislature this year, and we will all have to get behind any legislation which may be introduced to develop Montana airports.—Frank W. Wiley.

MONTANA AERONAUTICS COMMISSION
BUDGET REPORT FISCAL YEAR

Item	Budget	Expended	Balance
Commissioners	$ 1,680.00	$ 1,285.00	$ 395.00
Director	7,500.00	7,500.00	. . .
Attorney (retainer)	1,900.00	1,900.00	. . .
Office Help	4,400.00	4,400.00	
Janitor	240.00	240.00	
PERS Contributions	277.00	277.00	
Travel Requests	1,000.00	388.29	611.71
Airplane Operating Expense	2,500.00	2,163.96	336.04
Automobile Operating Expense	750.00	388.29	361.71
Travel Expense, Commission	3,250.00	2,914.93	336.04
Travel Expense, Office	2,000.00	2,023.35	—23.35
Association Dues	275.00	255.00	20.00
Insurance	450.00	330.23	119.77
Industrial Accident Insurance	700.00	422.55	277.45
Telephone and Telegraph	500.00	516.09	116.09
Repairs and Replacements, Furniture and Fixtures	50.00		50.00
Office Rent and Lights	495.00	493.19	1.81
Repairs & Replacements, Building and Attached Fixtures	50.00		50.00
Printing and Binding	1,500.00	1,650.98	—150.98
Stationery	100.00	99.60	.40
Postage	850.00	567.00	283.00
Office Supplies and Expense	350.00	299.91	50.09
General Supplies and Expense	100.00	49.25	50.75
Freight Expenses and Drayage	50.00	22.71	27.29
Official Bonds	20.00		
Subscriptions and Periodicals	225.00	214.00	11.00
Search and Rescue	3,000.00	2,356.12	643.88
Movie Expense	820.00	702.70	117.30
Education	1,500.00	644.64	855.36
Montana Aeronautical Chart	1,000.00	45.00	955.00
Reserve for Emergencies	6,768.00	353.10	6,414.90
Automobile	1,500.00	1,249.85	250.15
Landing Strips	1,000.00	102.32	897.68
Air Marking	1,500.00		1,500.00
Feeder Airlines & Legal Fees	1,000.00		1,000.00
TOTAL	$49,300.00	$33,855.06	$15,444.94

Item	Estimate	Actual
Gasoline Tax	$36,000.00	$36,909.35
Sale of Aeronautics Charts	1,000.00	400.75
Pilot Registration Fee	1,200.00	1,140.00
Miscellaneous	100.00	10.00
TOTAL	$38,300.00	$38,460.10

RECAPITULATION

Balance in Fund, June 1, 1956	$ 8,002.02
Income for June, 1956	3,871.54
	$11,873.56
Expenditures for June, 1956	4,246.90
Balance in Fund, June 30, 1956	$ 7,626.66

THE EYES HAVE IT

A new jet photo-reconnaissance plane developed for the Navy can fly non-stop across the United States, photographing a continuous 10-mile wide strip of terrain in less than four hours.

Northwest Airlines, as part of its 30th anniversary observance, dispatched a Ford Tri-Motor transport from New York's Idlewild Airport to Seattle via various intermediate points. It is one that NWA originally operated from 1928 to 1934

TOO FAST

(Following are a few notes taken by A. B. McMullen, Executive Secretary of the National Association of State Aviation Officials, at the recent Aviation Writers Association Convention, San Francisco).

At the bagining of a 15 minute address, Hall Hibbard, General Manager, Missile Systems Division, Lockheed Aircraft Corporation handed a letter to the Chairman addressed to a Lockheed airplane salesman in London

Many possible civil applications of missile technology . . in almost all cases, military inventions find their way into peaceful civilian use . . . example is wing of WWII Lockheed P-38 fighter, which found its way into civilian life as wing of the Constellation transport . . . Connie's wing is identical in larger scale.

About 10 years ago, predicted people would someday travel around at speeds of 100,000 mph—created something of a stir—today would not create much of a stir . . . intervening soundness of 100,000 mph statement. This work has all been developed—now mainly a matter of whether we want to badly enough.

As result of technology deveolped in nations various missile programs, we will live longer, more virile lives, have more leisure, and a higher standard of living.

The wing of the F-104 (perhaps highest performance fighter in the world) came straight from a missile that has been flying for some time . . . will some day see the F-104 wing, the erstwhile Lockheed missile wing, on a transport plane that will cruise at supersonic speeds.

When air is full of jet airliners, vertical rising jaloppies, and helicopter drays—what will keep this 3-dimentional traffic jam from making today's automotive man-slaughter look like a quite game of mah jong? The missile boys are handling this problem . . in process of working out the automatic flight and guidance systems, data control and reduction systems for missiles . . they are solving the problems and building the equipment to control this mass air travel of the future.

Will see mail rockets that will take missile mail across the nation or around the world at tremendous speeds. If Chairman had handed letter (above) to mailman of the future, it would have landed in New York several minutes ago, if that were its destination—since addressed to London, it would now be over northern Labrador.

We will see freight rockets for premium express Slow freight will go by propjet at rates lower than mail today, but if you are in a hurry for something from New York it will take only minutes.

In the development of missile technology that will directly be applicable to civil purposes will be the satellite . . .

Navigation: We can put up our own ideal celestial reference points on earth surfce, built to be visible to radar when stars are not visible . . . positioned to be exactly where we want them instead of where they appear to be; then we will have navigation down to an exact science. We will be able to automatically pilot manned and unmanned vehicles of any description with a precision that is impossible today.

Communications: With properly placed satellites in sky to reflect or rebroadcast signals, the old line-of-sight limitation on television and other high frequency electroic phenomena will be a thing of the past. We will be able to beam programs or communications to any spot on earth. There will be no TV dark areas.

Meteorology and Climatology There are perhaps 810 million cubic miles of weather-breeding area up in the arctic—a lot more in other weather origin areas . . . probably several short-sighted observation posts to report on this area . . . need thousands to maintain exact knowlege of conditions over so vast an area.

Solution-put satellites up where they can observe the whole panoramic sweep of weather as it forms and moves . . . easy to visualize value of absolutely dependable weather forecasts in agriculture, flood control, and Sunday school picnics

Missile technology will lead to lots of new electronic equipment that will be smaller, better and cheaper. Will see application of electronics to many things you wouldn't expect today. Can anticipate a watch pocket TV set some day . . instant communication with almost any place in the world. Robots doing the housework in the most modest of homes

Another missile-stimulated technique that will affect us all in computing and data processing . . . now used to study missiles in flight, to navigate and control them, and to solve the staggering problems encountered in their design Possible civilian application includes air and ground traffic control, business control, and automatic production . . . sounds philosophical, but computational barriers kept us in ignorance for hundreds of years of the natural laws upon which modern physics is based, until Einstein, by dint of towering genius worked his ways lowly over the barrier to scientific discoveries that have remade the world. Who knows what other worlds lie beyond the barriers our computers may help us pierce.

Our computers at Lockheed in their off hours are today studying human behavior as it relates to workmanship and missile reliability.

We now talk in speeds and terms of Mach numbers (speed of sound)—soon will be using "space numbers—speed of light."

The mail missile is just now coming in for a landing in London—15 minutes from San Francisco

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LOOK AND LISTEN

With the rapid increase of flying hours by all segments of aviation the necessity for alertness by all flight personnel cannot be overemphasized. At present there is no universal substitute for constant cockpit vigilance. Recommendations of the Flight Foundation should be followed.

1. Free yourself of any false sense of security both in VHF and IFR operations.
2. Survey the air as continuously as you do the highway while driving a car. Distraction by conversation with others in the cockpit or by reading or writing reports without delegating a "watch" is contrary togoodcockpit management. Organize responsibility for continuous vigilance.
3. Work out improved methods for scanning to over critical areas at frequent intervals and to avoid boredom.
4. Encourage the installation of anti-collision lights.
5. By all means listen! Keep your radio turned to the appropriate frequency. Helpful information may be acquired in this manner.

GENERAL AVIATION

The many segments of civil aviation referred to as "general aviation" are making a joint effort to list the ground facilities requirements of private, business and agricultural flying for consideration by Edward P. Curtis, Presidential special assistant for Aviation Facilities planning. The general aviation group will develop and prepare a report representing the coordinated views of civil aviation in the growing air space and air traffic problems with emphasis on the critical shortage of airports.

Aircraft Industries Association has pointed out that 60,000 active civil aircraft in the general aviation category flew about 9,500,000 hours in 1955 This fleet outnumbers the airline fleet of 1500 airplanes 40 times. In addition, deliveries of new aircraft used in general aviation are increasing—3,073 units in 1954, 4,434 in 1955 and based on deliveries so far this year there will be 6,000 or more units in 1956. AIA also reports that general aviation has more aircraft engaged in instrument flying than the air lines and more auto-pilot installations.

Organizations taking part in this program include NASAO, AOPA, Aviation Distributors and Manufacturers Assn., Aero Design and Engineering Co., AIA, Utility Aircraft Council, National Pilots Assn., Airport Operators Council, AAAE, NATA and NBAA.

PILOT SELECTION

By federal regulation there are currently four grades of pilots certificates—student, private, commercial and air transport rating with various ratings that may be obtained for each grade. Experience requirements are so designed that for each grade of certificate a certain experience level must be reached and flight examinations are governed accordingly. When a pilot is granted a private pilot's certificate, he may carry passengers but not for compensation. This privelege is retained for those people possessing appropriate commercial certificates. We realize that it is difficult for the general public to differentiate between the various grades of certificates, but when you plan to make a flight it behooves everyone to investigate the experience level of the pilot. If he is unknown to you, check with your local airport manager of fixed base operator who will be able to provide you with a general background for the pilot involved Beware of "share the expense schemes" so often proposed by pilots not holding valid commercial certificates All major cities in the state have available competent fixed base operators who maintain professional pilots on their payrolls for the express purpose of air charter work Also, their aircraft must be maintained to the highest standards of mechanical condition These are people to utilize for fast, efficient air transportation

HEAT AND SPEED

To fly at Mach 2, a plane must be capable of operation in a temperature of about 210 degrees, the temperature of boiling water.

At Mach 3 temperature requirements go up to 500 degrees, and at Mach 4 the external surface must withstand a temperature of 1,000 degrees Fahrenheit.

AIR CONTROL

Almost 10 per cent of the airspace above the U. S. is unusable, with 482 "prohibited," "restricted," and "warning" areas covering 300,000 square miles in which normal civil aviation cannot be conducted.

SMALL-PLANE ACCIDENTS DECLINE

The number of small-plane accidents in 1955 declined from the preceding year, according to a study of General Aviation Accidents by the CAA. Total number of accidents dropped from 3035 in 1954 to 2948 in 1955. Fatal accidents totaled 341 in 1954 while dropping to 318 in 1955, and fatalities dropped from 610 to 544. "This improved safety record is particularly gratifying," James T. Pyle, Acting Administrator, said, "in view of the fact that the amount of general aviation flying was greater in 1955 than in 1954."

PILOT MEDICAL STUDY TO BE UNDERTAKEN

The Flight Safety Foundation, Inc., New York, will conduct a pilot medical study in determining whether current civil pilot medical standards and examination procedures are still adequate. The project, to be completed by October 1, 1957, will be handled under a $100,000 contract awarded the Flight Safety Foundation by the Civil Aeronautics Administration. The study will seek to find out whether fitness standards and frequency of examination are adequate for transport, commercial and private pilots, or whether new standards might be evaluated in making it possible for pilots grounded due to non-organic physical infirmities to retain or recover flying licenses. The study will also include the application of medical examinations to crew members other than pilots.

SPECIAL NEWS ITEM

Only a few years ago no life insurance companies were known to be offering policies at standard rates to persons who piloted their own planes. Today, however, 87% of the firms consulted in a survey by the Institute of Life Insurance offer standard rate policies to owner-operators, who meet age and experience qualifications and whose flying activities are within certain liberal maximums.

TRENDS

Fixed base operators may be winning their long, hard fight for long term leases. In recent weeks, Dallas signed a 35-year lease with Southwest Airmotive at Love Field and Columbus with Lane Aviation for 30 years at Port Columbus. Am Avn Daily.

Minneapolis-Honeywell says its gyroscopic control system for the Vanguard satellite launching vehicle is so sensitive it can sense and correct deviations in the rocket's trajectory which are 300 times slower than the movement of the hour hand of a clock.

These early morning frosts on the wings of your aircraft destroy or impair lift. Park when possible with aircraft tail to the morning sun to aid in thawing frost before take-off.

MONTANA AERONAUTICS COMMISSION
ORO Y PLATA

Mrs. Loretta B. Peck
School of Mines
Butte, Montana

News Letter

P. O. Box 1698
Helena, Montana

CAA WANTS PEOPLE

Employment Openings for

CIVIL ENGINEERS
RADIO COMMUNICATIONS
ELECTRICAL ENGINEERS
ELECTRONIC TECHNICIANS
MECHANICAL ENGINEERS
AERONAUTICAL ENGINEERS
AIR TRAFFIC CONTROLLERS

Contact Your State Employment Service or Write to:

Personnel Office
CIVIL AERONAUTICS ADMINISTRATION
5651 W. Manchester Ave
LOS ANGELES 45, CALIFORNIA

CAA ITINERARY SCHEDULES FOR NOV. AND DEC.

The following schedule is published for the convenience of our readers who may wish to contact CAA safety agents during the months of November and December.

City	November	December
Billings	5-19-26	3-10-17-24-31
Bozeman	15	13
Butte		12
Cut Bank	7	
Glasgow	7	5
Glendive	14	12
Great Falls	8	6
Helena	5-19-26	3-10-17-31
Kalispell	28	19
Livingston	14	
Miles City	15	13
Missoula	29	20
Wolf Point	8	6

WANTED TO BUY

115 hp Lycoming engine or 100 hp Lycoming engine that can be converted to 115 hp. Write or call Morrison Flying Service, Municipal Airport, Helena, Montana.

WANTED TO BUY

1947 or 1948 Cessna 140 or Piper Super Cruiser (PA12) or might consider an Aeronca Chief if it has metal prop. Write Macer B. Moss, Box 458, Whitefish, Montana.

FOR SALE

Piper super cub 125, TT 1051 hrs, 2 hrs major. New Hexo-prop, new oil radiator, HF transmitter LF receiver. Very clean, always hangared. Price, $3,500. Write Lula Johnson, 27 North Rife, Dillon, Montana.

WANTED

Am interested in antique aircraft of most any type but prefer open bi-plane. Can you assist me in locating Travelair, Waco, Great Lakes, Laird, Fleet, Verville, Swallow or Lake aircraft. Write Capt. Marion B. Havelaar, 3642 West Chicago Street, Rapid City, South Dakota.

WANTED

Airplanes to rebuild or recover. Fiberglas a specialty. Write Henry F. Meine, Dillon, Montana.

FOR SALE

1947 Cessna 120, good shape and licensed until July, metal prop, always hangared. Write Guy B. Warren, Turner, Montana.

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